CONSULTANCY | ENVIRONMENT
INFRASTRUCTURE | BUILDINGS

Bicester

BREEAM New Construction 2018
Industrial (Shell & Core)

Pre-assessment Stage Tracker

BREEAM®

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BREEAM New Construction 2018

Pre-assessment Stage Tracker (Shell and Core)

BWB CONSULTANCY | ENVIRONMENT INFRASTRUCTURE | BUILDINGS

	CREDITS AVAILABLE	TARGETED CREDITS	% ACHIEVED	WEIGHTING	SCORE	CREDITS ACHIEVED	% ACHIEVED	WEIGHTING	SCORE	POTENTIAL CREDITS	% ACHIEVED	WEIGHTING	SCORE	CREDIT WEIGHTED VALUE
MANAGEMENT	18	12	66.67	0.110	7.33	0	0.00	0.11	0.00	6	33.33	0.11	3.67	0.61%
HEALTH & WELLBEING	10	8	80.00	0.080	6.40	0	0.00	0.08	0.00	0	0.00	0.08	0.00	0.80%
ENERGY	21	10	47.62	0.140	6.67	0	0.00	0.14	0.00	7	33.33	0.14	4.67	0.67%
TRANSPORT	12	5	41.67	0.115	4.79	0	0.00	0.12	0.00	0	0.00	0.12	0.00	0.96%
WATER	9	7	77.78	0.070	5.44	0	0.00	0.07	0.00	0	0.00	0.07	0.00	0.78%
MATERIALS	14	9	64.29	0.175	11.25	0	0.00	0.18	0.00	1	7.14	0.18	1.25	1.25%
WASTE	10	8	80.00	0.070	5.60	0	0.00	0.07	0.00	0	0.00	0.07	0.00	0.70%
LAND USE & ECOLOGY	13	9	69.23	0.150	10.38	0	0.00	0.15	0.00	0	0.00	0.15	0.00	1.15%
POLLUTION	12	10	83.33	0.090	7.50	0	0.00	0.09	0.00	1	8.33	0.09	0.75	0.75%
INNOVATION	10	3	30.00	0.100	3.00	0	0.00	0.10	0.00	0	0.00	0.10	0.00	1.00%
			TARGET SCORE		68.37			CURRENT SCORE	0.00			POTENTIAL SCORE	78.70	
			RATING		VERY GOOD			RATING	UNCLASSIFIED			RATING	EXCELLENT	

<30 %	UNCLASSIFIED
30 %	PASS
45 %	GOOD
55 %	VERY GOOD
70 %	EXCELLENT
85 %	OUTSTANDING

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Credit			Credit Information	RIBA	Action	Evidence Required	Points Available	Target Score	Achieved Score	Potential Additional
MANAGEMENT										
Man	**1**	Project delivery planning	1 Prior to completion of the Concept Design, the project delivery stakeholders meet to identify and define for each key phase of project delivery: a. Roles b. Responsibilities c. Contributions. 2 **Consider ALL of the following** items when defining roles, responsibilities and contributions for each key phase of the project: a. End user requirements b. Aims of the design and design strategy c. Particular installation and construction requirements or limitations d. Occupiers'budget and technical expertise in maintaining any proposed systems e. Maintainability and adaptability of the proposals f. Operational energy g. Requirements for the production of project and end user documentation h. Requirements for commissioning, training and aftercare support. Where the building occupants are not known, the list of considerations above still applies. The appropriate project delivery stakeholder considers each item, based on likely scenarios of building occupancy. 3 The project team demonstrates how the project delivery stakeholders'contributions and the consultation process outcomes influence the following: a. Initial Project Brief b. Project Execution Plan c. Communication Strategy d. Concept Design	**Concept Design**	**RP / AG**	**Provide;** 1. Meeting minutes/ correspondence that the client, building occupier , design team and contractor (if relevant) have met by RIBA Stage 2 to identify their roles & responsibilities during the following phases: a. Design (concept & developed) ; b. Construction; c. Commissioning and handover; d. In-use Occupation. 2. The roles and responsibilities outlined above include consideration the 8 required items. Evidence can be provided by way of meeting minutes or formal responsibilities schedule document summarising the required information. 3. Project delivery document 4. Correspondence & drawings/ meeting minutes to demonstrate how the project has been influenced or changed.	1	1		
		Stakeholder consultation (interested parties)	4. Prior to completion of the Concept Design, the design team consult with all interested parties on matters that cover the minimum consultation content. 5. Demonstrate how the stakeholder contributions and consultation exercise outcomes influence the Initial Project Brief and Concept Design. 6. Prior to completion of the detailed design (RIBA Stage 4, Technical Design or equivalent), all interested parties give and receive consultation feedback. **Minimum consultation content** 1. Functionality, build quality and impact (including aesthetics). 2. Provision of appropriate internal and external facilities (for future building occupants and visitors or users). 3. Management and operational implications. 4. Maintenance resources implications. 5. Impacts on the local community, e.g. local traffic or transportation impact. 6. Opportunities for shared use of facilities and infrastructure with the community or appropriate stakeholders. 7. Compliance with statutory (national or local) consultation requirements. 8. Energy use and sustainability measures. 9. Implementing principles and processes that deliver an inclusive and accessible design	**Concept Design/ Stage4**	**RP / AG**	**Provide;** 1. A list of stakeholders consulted during RIBA Stage2. 2. A consultation plan setting out the process and scope of the consultation. 3. Agenda/minutes from meetings covering all 9 listed items 4. Documentation demonstrating consultation feedback and subsequent actions. **Intrested parties;** 1. Actual or intended building users (if known) including facilities management staff or those responsible for the day-to-day operation of the building and grounds. 2. Representative consultation group from the existing community (if the building is a new development in an existing community) or for a community still under construction. 3. Existing partnerships and networks that have knowledge of, and experience of working on, existing buildings of the same type. 4. Potential users of any shared facilities, e.g. operators of clubs and community groups	1	1		

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Credit			Credit Information	RIBA	Action	Evidence Required	Points Available	Target Score	Achieved Score	Potential Additional
		BREEAM AP (Concept Design)	**Pre-requisite** for BREEAM Advisory Professional credits 8. The project team, including the client, formally agree strategic performance targets early in the design process (with the support of the BREEAM AP where appointed). 9. Involve a BREEAM AP in the project at an appropriate time and level to: 9.a Work with the project team, including the client, to consider the links between BREEAM issues and assist them in maximising the project's overall performance against BREEAM, from their **appointment and throughout Concept Design.** 9.b Monitor progress against the performance targets agreed under criterion 8 above throughout all stages after their appointment where decisions critically impact BREEAM performance 9.c Proactively identify risks and opportunities related to the achievement of the targets agreed under criterion 8 on the previous page. 9.d Provide feedbackto the project team as appropriate, to support them in taking corrective actions and achieving their agreed performance targets. 9.e Monitor and, where relevant, coordinate the generation of appropriate evidence by the project team.	**RIBA Stage 2**	**RP/ BREEAM AP**	**Provide;** 1. The AP appointment letter. 2. Relevant section/clauses of the building specification or contract. 3. Project programme indicating the dates by which the key work stages. 4. BREEAM AP involvement from RIBA Stages 2- 4 (meeting notes/minutes, recorded correspondence or schedules). 5. The AP progress report (for each work stage). 6. Design stage BREEAM assessment report	1			1
		BREEAM AP (Developed Design)	10 Criteria 8 and 9 above are achieved. 11 Involve the BREEAM AP in the project at an appropriate time and level to: 11.a Workwith the project team, including the client, to consider the links between BREEAM issues and to assist them in maximising the project's overall performance against BREEAM throughout Developed Design. 11.b Monitor progress against the performance targets agreed under criterion 8 throughout all stages where decisions critically impact the specification and tendering process and the BREEAM performance. 11.c Proactively identify risks and opportunities related to the achievement of the targets agreed under criterion 8 11.d Provide feedbackto the project team as appropriate, to support them in taking corrective actions and achieving their agreed performance targets. 11.e Monitor and, where relevant, coordinate the generation of appropriate evidence by the project team.	**RIBA Stages 3- 4**	**RP/ BREEAM AP**		1			1
		Elemental LCC	1. A competent person carries out an outline, entire asset LCC plan at Process Stage 2 (equivalent to Concept Design - RIBA Stage 2) together with any design options appraisals in line with 'Standardised method of life cycle costing for construction procurement'PD 156865:2008. 2. The elemental LCC plan: a. Provides an indication of future replacement costs over a period of analysis as required by the client (e.g. 20, 30, 50 or 60 years); b. Includes service life, maintenance and operation cost estimates. 3. Demonstrate, using appropriate examples provided by the design team, how the elemental LCC plan has been used to influence building and systems design and specification to minimise life cycle costs and maximise critical value.	**Concept Design**	**LCC/ RP / Client**	**Provide;** 1- A compliant Elemental LCC plan/report in line with PD156865:2008 based on concept design. 2- Examples of how the plan has influenced the design/specification (meeting minutes, emails,drawings, reports)	2			2

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Credit			Credit Information	RIBA	Action	Evidence Required	Points Available	Target Score	Achieved Score	Potential Additional
Man	2	Component level LCC options appraisal	4. A competent person develops a component level LCC options appraisal by the end of Process Stage 4 (equivalent to Technical Design – RIBA Stage 4) in line with PD 156865:2008. The component level LCC includes (where present): 4.a Envelope, e.g. cladding, windows, or roofing 4.b Services, e.g. heat source, cooling source, or controls 4.c Finishes, e.g. walls, floors or ceilings 4.d External spaces, e.g. alternative hard landscaping, boundary protection. 5. Demonstrate, using appropriate examples provided by the design team, how the component level LCC options appraisal has been used to influence building and systems design and specification to minimise life cycle costs and maximise critical value.	**Stage 4**	**LCC/ RP / Client**	**Provide;** 1- Compliant Component level LCC options appraisal plan. 2- Examples of how the plan has influenced the design/specification (meeting minutes, emails,drawings, reports) **POTENTIAL**	1			1
		Capital cost reporting	6. Report the capital cost for the building in pounds per square metre of gross internal floor area (£k/ m²) as part of the submission to BRE. The capital cost to include the expenses related to the initial construction of the building: – Construction, including preparatory works, materials, equipment and labour – Site management – Construction financing – Insurance and taxes during construction – Inspection and testing Costs related to land procurement, clearance, design, statutory approvals and post occupancy aftercare are not included.	**Design**	**RP**	**Provide;** 1. The predicted capital cost for the building to be provided (£k/m2)	1	1		
		Timber	**Pre-requisite** 1. All timber and timber-based products used during the construction process of the project are 'legally harvested and traded timber'.	**Design**	**Contractor**	**Provide;** 1. Written confirmation that all timber-based products used on the project is 'Legally harvested and traded timber' i.e. sourced in compliance with the UK Government Timber Procurement Policy. To be included in the tender documents	**No Credits**			
		Environmental management	3. All parties who at any stage manage the construction site (e.g. the principal contractor, the demolition contractor) operate an EMS covering their main operations. The EMS must: 3.a Be third party certified, to ISO14001:2015, EMAS(EU Eco-Management and Audit Scheme) orequivalent standard; OR 3.b In compliance with BS8555:2016 have: 3.b.i Appropriate structure 3.b.ii Reached implementation stage phase four 'implementation and operation of the environmental management system' 3.b.iii Completed defined phase audits one to four. 4. All parties who at any point manage the construction site (e.g. the principal contractor, the demolition contractor) implement best practice pollution prevention policies and procedures on site in accordance with Working at construction and demolition sites:PPG6, Pollution Prevention Guidelines.	**Design**	**Contractor**	**Provide;** 1. Relevant section/clauses of the building specification or contract. OR A signed and dated letter of commitment to meet the relevant criteria. To be included in the tender documents	1	1		

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Credit			Credit Information	RIBA	Action	Evidence Required	Points Available	Target Score	Achieved Score	Potential Additional
Man	3	BREEAM AP (site)	**Pre-requisite** 5. The client and the contractor formally agree performance targets. 6. Involve a BREEAM AP in the project at an appropriate time and level to: 6.a. Workwith the project team, including the client, to consider the links between BREEAMissues and assist them in achieving and if possible going beyond the design intent, to maximise the project's performance against the agreed performance targets throughout the Construction, Handover and Close Out stages. 6.b. Monitor construction progress against the performance targets agreed under criterion 5 above throughout all stages where decisions critically impact BREEAM performance. 6.c. Proactively identify risks and opportunities related to the procurement and construction process and the achievement of the targets agreed under criterion 5. 6.d. Provide feedbackto the constructors and the project team as appropriate, to support them in taking corrective actions and achieving their agreed performance targets. 6.e. Monitor and, where relevant, coordinate the generation of appropriate evidence by the project team and the provision to the assessor.	**RIBA Stages 5&6**	**Contractor**	**Provide;** 1. The AP appointment letter OR Relevant section/clauses of the building specification/ contract. 2. Project programme indicating the dates by for the key work stages. 3. Meeting notes/minutes, recorded correspondence or schedules that can demonstrate BREEAM issues are a regular agenda item and AP attendance. 4. The AP progress report during the Construction, Handover and Close Out stages. To be included in the tender documents	1	1		
		Responsible construction management	**MANDATORY 1 CREDIT- EXCELLENT** <u>One credit</u> 7. Achieve nine items listed in this table 4.1; a. Vehicle movement b. Pollution management c. Tidiness d. Health and wellbeing e. Security processes f. Training, awareness and feedback g. Monitoring and reporting <u>Two credits</u> 8. Achieve criterion 7 above. 9. Achieve six additional items in tablw 4.1. CCS score of 35 with min of 7 on each section PLUS Ensuring clear and safe access in and around the buildings at the point of handover- will achieve the two credits.	**Design**	**Contractor**	**Provide;** 1. Relevant section/clauses of the building specification or contract. OR A formal letter of commitment from the client/developer confirming commitment to score the two credits **CCS;** - Achieve a min of 11 points on each of the 3 sections and min total of 35 To be included in the tender documents	2	2		

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Credit			Credit Information	RIBA	Action	Evidence Required	Points Available	Target Score	Achieved Score	Potential Additional
		Monitoring of construction-site impacts	10. Assign responsibility to an individual for monitoring, recording and reporting energy use, water consumption and transportation data (where measured) resulting from all on-site construction processes (and dedicated off-site manufacturing) throughout the build programme. To ensure the robust collection of information, this individual must have the appropriate authority and responsibility to request and access the data required. Energy consumption 11. Achieve criterion 10. 12. Set targets for the site energy consumption in kWh (and where relevant, litres of fuel used) as a result of the use of construction plant, equipment (mobile and fixed) and site accommodation. 13. Monitor and record data for the energy consumption described in criterion 12. 14. Report the total carbon dioxide emissions (total $kgCO_2$/project value) from the construction process via BREEAM Projects Water consumption 15. Achieve criterion 10. 16. Set targets for the potable water consumption (m^3) arising from the use of construction plant, equipment (mobile and fixed) and site accommodation. 17. Monitor and record data for the potable water consumption described in criterion 16. 18. Use the collated data to report the total net water consumption (m^3), i.e. consumption minus any recycled water use from the construction process via BREEAM Projects.	**Design**	**Contractor**	**Provide;** 1. Relevant section/clauses of the building specification or contract. OR A signed and dated letter of commitment to meet the relevant criteria (Assign an individual for monitoring, recording and reporting energy, water consumption data on site). To be included in the tender documents	1	1		
			Transportation of construction materials and waste 19. Achieve criterion 10. 20. Set targets for transportation movements and impacts resulting from delivery of the majority of construction materials to site and construction waste from site. As a minimum cover: 20.a transportation of materials from the point of supply to the building site, including any transport, intermediate storage and point of supply. Monitor as a minimum: 20.a.i Materials used in major building elements (i.e. those defined in BREEAM issue Mat 01 Environmental impacts from construction products - Building life cycle assessment (LCA) 20.a.ii Ground works and landscaping materials. 20.b transportation of construction waste from the construction gate to waste disposal processing or recovery centre gate. This monitoring must cover the construction waste groups outlined in the project's resource management plan. 21 Monitor and record data for the transportation movements. 22 Using the collated data, report separately for materials and waste, the total transport-related carbon dioxide emissions ($kgCO_2$-eq), plus total distance travelled (km) via BREEAM Projects	**Design**	**Contractor**	**Provide;** 1. Relevant section/clauses of the building specification or contract. OR A signed and dated letter of commitment to meet the relevant criteria for monitoring, recording and reporting transport data on site. To be included in the tender documents	1	1		

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Credit			Credit Information	RIBA	Action	Evidence Required	Points Available	Target Score	Achieved Score	Potential Additional
Man	4	Commissioning and testing schedule and responsibilities	**MANDATORY CREDIT** 1. Prepare a schedule of commissioning and testing. The schedule identifies and includes a suitable timescale for commissioning and re-commissioning of all complex and non-complex building services and control systems and for testing and inspecting building fabric. 2. The schedule identifies the appropriate standards for all commissioning activities to be conducted, where applicable, in accordance with: 2.a. Current Building Regulations 2.b. BSRIA guidelines 2.c. CIBSE guideline 2.d.Other appropriate standards 3. Where a building management system (BMS) is specified: 3.a. Carry out commissioning of air and water systems when all control devices are installed, wired and functional 3.b. Include physical measurements of room temperatures, off-coil temperatures and other key parameters, as appropriate, in commissioning results 3.c. The BMS or controls installation should be running in auto with satisfactory internal conditions prior to handover 3.d All BMS schematics and graphics (if BMS is present) are fully installed and functional to user interface prior to handover 3.e Fully train the occupier or facilities team in the operation of the system. 4. Appoint an appropriate project team member to monitor and programme pre-commissioning, commissioning and testing. Where necessary include re-commissioning activities on behalf of the client. 5. The principal contractor accounts for the commissioning and testing programme, responsibilities and criteria within their budget and the main programme of works.	**Design**	**BWB**	**Provide;** 1. Appointment letter or commissioning responsibilities schedule. 2. Relevant section/clauses of the building specification or contract. 3. Principal contractors programme 4. Commissioning schedule To be included in the tender documents	1	1		
		Commissioning - design and preparation	6. Achieve criteria 1 to 5. 7. During the design stage, the client or the principal contractor appoints an appropriate project team member, provided they are not involved in the general installation works for the building services systems, with responsibility for: 7.a. Undertaking design reviews and giving advice on suitability for ease of commissioning. 7.b. Providing commissioning management input to construction programming and during installation stages. 7.c. Management of commissioning, performance testing and handover or post-handover stages. For buildings with complex building services and systems, this role needs to be carried out by a specialist commissioning manage	**Design**	**BWB**	**Provide;** 1. Appointment letter with scope of work Or Relevant section/clauses of the building specification or contract. To be included in the tender documents	1	1		

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		Testing and inspecting building fabric	8. Achieve criteria 1 to 5. 9. Complete post-construction testing and inspection to quality-assure the integrity of the building fabric, including continuity of insulation, avoidance of thermal bridging and air leakage paths (this is through airtightness testing and a thermographic survey). A suitably qualified professional undertakes the survey and testing in accordance with the appropriate standard. 10. Rectify any defects identified during post-construction testing and inspection prior to building handover and close out. Any remedial workmust meet the required performance characteristics for the building or element as defined at the design stage.	**Design**	**Contractor**	**Provide;** 1. Commitment letter with scope of work Or Relevant section/clauses of the building specification or contract covering; a. Thermographic survey b. Air-tightness report c. Confirmation that the survey/testing will be taken by Suitably Qualified Professionals. d. Any defects identified in the thermographic survey or the airtightness testing reports will be rectified. **POTENTIAL**	1			1
		Handover	**MANDATORY CREDIT** 11. Prior to handover, develop **two building user guides** for the following users: 11.a. A non-technical user guide for distribution to the building occupiers. 11.b. A technical user guide for the premises facilities managers. A draft copy is developed and discussed with users first (**where the building occupants are known**) to ensure the guide is most appropriate and useful to potential users. The content of the guide will be specific to the building type and end users, but broadly should include information on the following: a. Overview of the building and its environmental strategy. b. Provision of, and access to, shared facilities. c. Safety and emergency information or instructions. d. Building-related operational procedures specific to building type or operation. e. Building-related incident reporting and feedbackarrangements. f. Provision of and access to transportation facilities. g. Provision of and access to local amenities. h. Links, references and relevant contact detail. 12. Prepare **two training schedules** timed appropriately around handover and proposed occupation plans for the following users: 12.a. A non-technical training schedule for the building occupiers. 12.b. A technical training schedule for the premises facilities manager.	**Design**	**Contractor**	**Provide;** 1. Relevant section/clauses of the building specification or contract. OR Letter of commitment from the client/developer to provide two compliant BUGs relevant to the building's staff & non-technical facilities management team covering the 8 points AND to provide the compliant training two schedules. To be included in the tender documents	1	1		

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HEALTH & WELLBEING										
Hea	1	Daylighting	4 Daylighting criteria have been met using either of the following options: 4.a The relevant building areas meet good practice daylight factors and other criteria as outlined in Table 5.1 and Table 5.2 (min 80% of relevant areas has 20% ADLF Plus A uniformity ratio OR view of sky/ room depth criteria) OR 4.b The relevant building areas meet good practice average and minimum point daylight illuminance criteria as outlined in Table 5.3 (min 80% of relevant areas has Average daylight illuminanceof at least 300 lux for 2000 hours per year or more PLUS minimum daylight illuminance at worst lit point of at least 90 lux for 2000 hours per year or more) **Relevant areas;** Areas occupied continuously for 30 minutes or more including; Sports hall exercise spaces, Kitchen and catering areas, General communal areas, offices, Meeting rooms, Leisure areas, and any area that may involve close up work.	**Design**	**BWB**	**Provide;** 1. Daylighting calculations to be provided to demonstrate compliance 2. Design drawings showing openings locations	1	1		
		View out	5. 95% of the floor area in 95% of spaces for each relevant building area is within 8 m of an external wall. The external wall has a window or permanent opening that provides an adequate view out. 6. The window or opening must be ≥ 20% of the surrounding wall area. Where the room depth is greater than 8 m, compliance is only possible where the percentage of window or opening is the same as, or greater than, the values in Table 1.0 of BS8206: part 2. **Relevant areas;** a) There are or will be workstations or benches or desks for building users. b) Close work will be undertaken, or visual aids will be used.	**Design**	**AG**	**Provide;** 1. Design drawings showing room depth, windows size/location and surrounding wall area 2. Relevant section/clauses of the building specification or contract 3. Window schedule	1	1		
		Internal and external lighting levels, zoning and control	External lighting 10. All external lighting located within the construction zone is specified in accordance with BS5489-1:2013 Code for the practice for the design of road lighting. Lighting of roads and public amenity areas and BSEN 12464-2:2014 Light and lighting - Lighting of workplaces - Part 2:Outdoor workplaces. External lighting should provide illuminance levels that enable users to perform outdoor visual tasks efficiently and accurately, especially during the night. 11. Where no external light fittings are specified (either separate from or mounted on the external building façade or roof), the criteria relating to external lighting do not apply and the credit can be awarded on the basis of compliance with criteria 8–9.c above.	**Design**	**BWB**	**Provide;** 1. Design drawings and/or room data sheets/schedules 2. Relevant section/clauses of the building specification or contract OR a letter of formal confirmation of compliance from the relevant design team member (state all required standards).	1	1		

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Hea	2	Indoor air quality (IAQ) plan	**Pre-requisite** 1. A site-specific indoor air quality plan has been produced and implemented in accordance with the guidance in Guidance Note GN06. The objective of the plan is to facilitate a process that leads to design, specification and installation decisions and actions that minimise indoor air pollution during occupation of the building. The indoor air quality plan must consider the following; 1.a Removal of contaminant sources 1.b Dilution and control of contaminant sources: 1.b.i Where present, consideration is given to the air quality requirements of specialist areas such as laboratories 1.c Procedures for pre-occupancy flush out 1.d Third party testing and analysis 1.e Maintaining good indoor air quality in-use.	**Design**	**BWB**	**Provide;** 1. Copy of the compliant indoor air quality plan	**No Credits**			
		Ventilation	2. The building has been designed to minimise the indoor concentration and recirculation of pollutants in the building as follows: 2.a Provide fresh air into the building in accordance with the criteria of the relevant standard for ventilation	**Design**	**BWB**	**Provide;** 1. Relevant section/clauses of the building specification or contract 2. Design drawings	1	1		
Hea	4	Thermal modelling	1. Thermal modelling has been carried out using software in accordance with CIBSE AM11 Building Energy and Performance Modelling. 2. The software used to carry out the simulation at the detailed design stage provides full dynamic thermal analysis. For smaller and more basic building designs with less complex heating or cooling systems, an alternative less complex means of analysis may be appropriate (such methodologies must still be in accordance with CIBSE AM11). 3. The modelling demonstrates that: 3.a For air-conditioned buildings, summer and winter operative temperature ranges in occupied spaces are in accordance with the criteria set out in CIBSE Guide A Environmental design, Table 1.5; or other appropriate industry standard (where this sets a higher or more appropriate requirement or level for the building type) 3.b For naturally ventilated buildings: 3.b.i Winter operative temperature ranges in occupied spaces are in accordance with the criteria set out in CIBSE Guide A Environmental design, Table 1.5. Or other appropriate industry standard (where this sets a higher or more appropriate requirement or level for the building type) 3.b.ii The building is designed to limit the riskof overheating, in accordance with the adaptive comfort methodology outlined in either of the following standards as appropriate;CIBSE TM52: The limits of thermal comfort:avoiding overheating in European buildings or CIBSE TM59: Design methodology for the assessment of overheating riskin homes. 4. For air-conditioned buildings, the PMV (predicted mean vote) and PPD (predicted percentage of dissatisfied) indices based on the above modelling are reported via the BREEAM assessment scoring and reporting tool.	**Design**	**BWB / Contractor**	**Provide;** 1. Confirmation that the Thermal modelling carried out using CIBSE AM11 compliant software. 2. Relevant section/clauses of the building specification or contract or correspondence. 3. Thermal modelling results 4. For air conditioned buildings; PMV & PPD indices.	1	1		

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Credit			Credit Information	RIBA	Action	Evidence Required	Points Available	Target Score	Achieved Score	Potential Additional
		Design for future thermal comfort	5. Criteria 1 to 4 are achieved. 6. The thermal modelling demonstrates that the relevant requirements set out in criterion 3 above are achieved for a projected climate change environment. 7. Where criterion 6 above is not met, the project team demonstrates how the building has been adapted, or designed to be easily adapted in future using passive design solutions in order to subsequently meet the requirements under criterion 6 above 8. For air-conditioned buildings, the PMV and PPD indices based on the above modelling are reported via the BREEAM assessment scoring and reporting tool.	**Design**	**BWB / Contractor**	**Provide;** 1. Relevant section/clauses of the building specification or contract or correspondence. 2. The PMV and PPD indices	1	1		
Hea	**5**	Acoustic performance	1. The building meets the appropriate acoustic performance standards and testing requirements defined in the relevant table which defines criteria for the acoustic principles of the Indoor ambient noise level OR 2. A suitably qualified acoustician (SQA) is appointed to define a bespoke set of performance requirements for all function areas in the building. The bespoke performance requirements use the three acoustic principles setting out the performance requirements for each and the testing regime required. Achieve **indoor ambient noise level**s that comply with the design ranges given in Section 7 of BS 8233:2014 A programme of pre-completion acoustic testing is carried out by a compliant test body in accordance with the acoustic testing and measurement procedures	**Design**	**Acoustician**	**Provide;** 1. Compliant report 2. SQA confirmation. 3. Relevant section/clauses of the building specification or contract and/or formal letter from the project team regarding commitments.	1	1		
Hea	**7**	Safe and Healthy surroundings	**Safe access-1st credit** Where external site areas form part of the assessed development the following apply: 1 Dedicated and safe cycle paths are provided from the site entrance to any cycle storage, and connect to offsite cycle paths where applicable. 2 Dedicated and safe footpaths are provided on and around the site providing suitable links for the following: 2.a The site entrance to the building entrance 2.b Car parks (where present) to the building entrance 2.c The building to outdoor space 2.d Connecting to off-site paths where applicable. 3 Pedestrian drop-off areas are designed off, or adjoining to, the access road and should provide direct access to other footpaths. Where vehicle delivery access and drop-off areas form part of the assessed development, the following	**Design**	**AG**	**Provide;** **1st Credit;-** 1. Design drawings (including a scaled site plan) 2. AND/OR relevant sections of the specification highlighting all necessary compliant features and dimensions. **2ndt Credit;-Targeted** 1. Design drawings showing the proposed compliant amenity area (location, size, seating, non smoking, open to sky)	2	1		
ENERGY										
		Reduction of energy	**MANDATORY 4 CREDITS** <u>Up to nine credits - Energy performance</u> 1. Calculate an Energy Performance Ratio for New Construction (EPR NC) and compare the EPR NC achieved with the provided benchmarks in Table 6.1. NB There is separation of Energy Demand, Energy Consumption and CO2 emissions.	**Design**	**BWB**	**Provide**; 1. A copy of the BRUKL from the approved software based on the "As designed" stage of analysis. **TWO EXTRA POTENTIAL**	9	4		2

BREEAM New Construction 2018
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Credit			Credit Information	RIBA	Action	Evidence Required	Points Available	Target Score	Achieved Score	Potential Additional
Ene	1	Reduction of energy use and carbon emissions	Four credits – Prediction of operational energy consumption 2. Involve relevant members of the design team in an energy design workshop focusing on operational energy performance. 3. Undertake additional energy modelling during the design and post-construction stage to generate predicted operational energy consumption figures. 4. Report predicted energy consumption targets by end use, design assumptions and input data (with justifications). 5. Carry out a riskassessment to highlight any significant design, technical, and process risks that should be monitored and managed throughout the construction and commissioning process	Design	BWB	**Provide**; 1. Workshop minutes, agreed outcomes at design stage. 2. Report predicted energy consumption values, design assumptions, input data and risk assessments reported as detailed in the Energy Prediction and Postoccupancy guidance available from the BREEAM website. 3. Confirmation of suitably qualified energy modeller's qualifications.	4			4
Ene	2	Energy monitoring	**MANDATORY CREDIT** One credit - Sub-metering of end-use categories 1. Install energy metering systems so that at least 90% of the estimated annual energy consumption of each fuel is assigned to the end-use categories. 2. Meter the energy consumption in buildings according to the total useful floor area: 2.a. If the area is greater than 1,000 m², by end-use category with an appropriate energy monitoring and management system. 2.b. If the area is less than 1,000 m², use either: 2.b.i an energy monitoring and management system or 2.b.ii separate accessible energy sub-meters with pulsed or other open protocol communication outputs, for future connection to an energy monitoring and management system. 3. Building users can identify the energy consuming end uses, for example through labelling or data outputs. One credit - Sub-metering of high energy load and tenancy areas 4. Monitor a significant majority of the energy supply with: 4.a An accessible energy monitoring and management system for: 4.a.i tenanted areas or 4.a.ii relevant function areas or departments in single occupancy buildings. OR 4.b Separate accessible energy sub-meters with pulsed or other open protocol communication outputs for future connection to an energy monitoring and management system for: 4.b.i tenanted areas or 4.b.ii relevant function areas or departments in single occupancy buildings. 5. Sub-meter per floor plate in large single occupancy or single-tenancy buildings with one homogeneous function, for example hotel bedrooms, offices.	Design	BWB	**Provide;** 1. Relevant section/clauses of the building specification or contract. 2. Design drawings confirming the sub-metering of; a. Space heating b. Domestic hot water heating c. Humidification d. Cooling* e. Ventilation, i.e. fans (major)* f. Pumps g. Lighting h. Small power i. Renewable or low carbon systems (separately) j. Controls k. Other major energy consuming systems (i.e. swimming) 3. Drawings confirming sub-meters are specified for different departments/functions within each unit (for the above listed uses)	2	2		

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Credit			Credit Information	RIBA	Action	Evidence Required	Points Available	Target Score	Achieved Score	Potential Additional
Ene	3	External lighting	1. No external lighting (which includes lighting on the building, at entrances and signs). OR 2. External light fittings within the construction zone with: 2.a Average initial luminous efficacy of not less than 70 luminaire lumens per circuit Watt 2.b Automatic control to prevent operation during daylight hours 2.c Presence detection in areas of intermittent pedestrian traffic.	Design	BWB	**Provide;** Reference to the Electrical Specification and/or drawings confirming: 1. External luminaires are controlled by a time/light sensor & presence detection is specified at areas of intermittent pedestrian traffic. 2. The average initial luminous efficacy of the external light fittings is not less than 70 luminaire lumens per circuit Watt.	1	1		
		Passive design analysis	1. Achieve the first Thermal modelling to demonstrate that the building design delivers appropriate thermal comfort levels in occupied spaces. 2. The project team analyses the proposed building design and development during Concept Design to identify opportunities for the implementation of passive design measures. 3. Implement passive design measures to reduce the total heating, cooling, mechanical ventilation, lighting loads and energy consumption in line with the passive design analysis findings. 4. Quantify the reduced total energy demand and carbon dioxide (CO_2) emissions resulting from the passive design measures. **Analysis to cover;** 1. Site location 2. Site weather 3. Microclimate 4. Building layout 5. Building orientation 6. Building form 7. Building fabric 8. Thermal mass or other fabric thermal storage 9. Building occupancy type 10. Daylighting strategy 11. Ventilation strategy 12. Adaptation to climate change	RIBA Stage2	BWB/ AG	**Provide;** 1. A copy of the compliant Passive design analysis (covering 12 points) and measures implemented. 2. Results from a dynamic simulation model demonstrating the reduced energy demand and CO_2-eq emissions from the specified passive design measure **POTENTIAL**	1			1

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Credit			Credit Information	RIBA	Action	Evidence Required	Points Available	Target Score	Achieved Score	Potential Additional
Ene	4	Low and zero carbon technologies	9. An energy specialist completes a feasibility study by the end of Concept Design. 10. Establish the most appropriate recognised local (on-site or near-site) low or zero carbon (LZC) energy sources for the building or development, based on the feasibility study. 11. Specify local LZC technologies for the building or development in line with the feasibility study recommendations. 12. Quantify the reduced regulated carbon dioxide (CO_2) emissions resulting from the feasibility study. **The compliant study to cover;** a. Energy generated from LZC energy source per year b. Carbon dioxide savings from LZC energy source per year c. Life cycle cost of the potential specification, accounting for payback d. Local planning criteria, including land use and noise e. Feasibility of exporting heat or electricity from the system f. Any available grants g. All technologies appropriate to the site and energy demand of the development h. Reasons for excluding other technologies i. If appropriate: - the building is connected to an existing local community CHP system or - the building is connected to an existing source of waste heat or power OR - a building or site CHP system is specified with the potential to export excess heat or power via a local community energy scheme or - a source of waste heat or power is specified with the potential to export excess heat or power via a local community energy scheme j. Energy storage.	**Concept Design**	**BWB**	**Provide;** 1. Design drawings or relevant section/clauses of the building specification or contract showing the specifed LZC or commitment to install it.	1	1		
Ene	**6**	Energy efficient transportation systems	**One credit - Energy consumption** 1 For specified lifts, escalators or moving walks (transportation types): 1.a Analyse the transportation demand and usage patterns for the building to determine the optimum number and size of lifts, escalators or moving walks 1.b Calculate the energy consumption in accordance with BSEN ISO25745 Part 2 or Part 3 for one of the following: 1.b.i At least two options for each transportation type (e.g. for lifts, hydraulic, traction or machine roomless (MRL)) OR 1.b.ii At least two options considering different system arrangements and control strategies. 1.c Consider the use of regenerative drives, subject to the requirements in Regenerative drives 1.d Specify the transportation system with the lowest energy consumption. **One credit - Energy efficient features- Lifts** 2 Achieve criterion 1 above. 3 Specify the following three energy efficient features for each lift: 3.a A standby condition for off-peakperiods 3.b The lift car lighting and display lighting provides an average luminous efficacy across all fittings in the car of > 70 luminaire lumens per circuit Watt 3.c Use of a drive controller capable of variable speed, variable-voltage, and variable-frequency (VVVF) control of the drive motor. 4 Specify regenerative drives where their use is demonstrated to save energy.	**Design**	**Lift supplier/ Contractor**	**Provide;** **First credit:** 1. A copy of the relevant report or documentation detailing the analysis undertaken and the findings covering ALL listed points **Second credit:** 2. Provide a copy of the lift specification confirming the 3 follwoing features; a) Stand by mode b) Variable speed, voltage and frequency control of the motor. c) Energy efficient lighting 2. Where the use of regenerative drives is demonstrated to save energy, they are specified.	2	2		

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BWB CONSULTANCY | ENVIRONMENT INFRASTRUCTURE | BUILDINGS

Credit			Credit Information	RIBA	Action	Evidence Required	Points Available	Target Score	Achieved Score	Potential Additional
TRANSPORT										
Tra	**1**	Transport assessment & Travel Plan	1 No later than Concept Design stage, undertake a site-specific transport assessment (or develop a travel statement) and draft travel plan, which can demonstrably be used to influence the site layout and built form. 2 The site-specific travel assessment (or statement) shall cover as a minimum: 2.a If relevant, travel patterns and attitudes of existing building or site users towards cycling, walking and public transport, to identify relevant constraints and opportunities. 2.b Predicted travel patterns and transport impact of future building or site users. 2.c Current local environment for pedestrians and cyclists, accounting for any age-related requirements of occupants and visitors. 2.d Reporting of the number and type of existing accessible amenities, within 500m of the site. 2.e Disabled access accounting for varying levels and types of disability, including visual impairment. 2.f Calculation of the existing public transport Accessibility Index (AI) 2.g Current facilities for cyclists. 3 Following a transport assessment (in accordance with the requirements set out in criteria 2), develop a sitespecific travel plan that provides a long term management strategy which encourages more sustainable travel. **The Travel plan to address ALL of the following measures;** 1. Negotiation with local bus, train or tram companies an increase in the local service provision for the development 2. Provision of a public transport information system in a publicly accessible area 3. Provision of electric recharging stations 4. Provision of parking priority spaces for car sharers 5. Consultation with the local authority on the state of the local cycling networkand on improvements 6. Provision of dedicated and convenient cycle storage 7. Provision of cyclists' facilities 8. Lighting, landscaping and shelter to create pleasant pedestrian and public transport waiting areas 9. Restrictions or charging for car parking 10. Pedestrian and cyclist friendly (for all types of user regardless of the level of mobility or visual impairment) with the provision of cycle lanes, safe crossing points, direct routes, appropriate tactile surfaces, good lighting and signposting to other amenities, public transport nodes and 11. Provision of suitable taxi drop-off or waiting area 12. Ensure rural buildings have appropriate access to transport to serve the local community adequately (where procured to do so, e.g. community centre)adjoining off-site pedestrian and cycle routes 4 If the occupier is known, involve them in the development of the travel plan. 5 Demonstrate that the travel plan will be implemented and supported by the building's management in operation	**Concept Design**	**AB**	**Provide;** 1. Copy of the compliant (TP) & survey incl (AI & amenities) 2. Confirmation that the TP will be implemented and supported by the building's management in operation. **Fo AI calculation, provide the follwoing;** 1. The safe pedestrian route to each public transport node (bus stop) marked out. 2. The corresponding pedestrian distance from the entrance (max 650m for buses and 1000m for train). 3. The services running from each node with timetables for each service. **Confirm typical daily working hours**	2	2		

BREEAM New Construction 2018
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Credit			Credit Information	RIBA	Action	Evidence Required	Points Available	Target Score	Achieved Score	Potential Additional
Tra	2	Sustainable transport measures	**Pre-requisite** 1. Achieve the Tra 01 Transport assessment and travel plan credits. <u>Ten credits – Transport options implementation</u> 2. Identify the sustainable transport measures; 11 measures available in- Public transport, Private transport, Active travel & Alternative transport measures (includes the compliant cycle storage 1/10 staff & 3 existing amenities). 3. Award credits according to the Accessible Index (AI) of the project, and the total number of points achieved for the options implemented 4. Install compliant cycle storage spaces 1 space/ 10 staff 5. Provide electric recharging stations of a minimum of 3kW for at least 10% of the total car parking capacity for the development 6. Car sharing; a) Provide priority spaces for car sharers for at least 5% of the total car parking capacity for the development. b) Locate priority parking spaces nearest the development entrance used by the sharing scheme participants.	**Design**	**AB / BWB / AG**	**Provide;** Marked-up site plan or map highlighting the location of assessed building and; 1. The proposed cycle shed/ distances/ lighting-(1 space to each 10 staff)- 1 point 2. Cyclist facilities (shower/lockers/drying area/changing rooms) 3. Electric recharging stations 10%- provided 25% 4. Car sharing 5%- **OUT** **Confirm the number of users**	10	3		
WATER										
Wat	1	Water consumption	**MANDATORY CREDIT** 1. Use the BREEAMWat 01 calculator to assess the efficiency of the domestic water-consuming components. 2. The efficiency of the following 'domestic scale' water-consuming components must be assessed; a. WCs b. Urinals c. Taps (wash hand basins and where specified kitchen taps and waste disposal unit) d. Showers e. Baths f. Dishwashers (domestic and commercial sized) g. Washing machines (domestic and commercial or industrial sized). 3. If a greywater or rainwater system is specified, use its yield in L/person/day to offset potable water demand from components. 4. If a greywater or rainwater system is specified and installed: 4.a Greywater systems in compliance with BS8525-1:2010 Greywater systems - Part 1 Code of Practice 4.b Rainwater systems in compliance with BS8515:2009+A1:2013 Rainwater harvesting systems - Code of practice.	**Design**	**AG/ BWB**	**Provide;** 1. A copy of the specification confirming the quantity and specification of all different types of water fittings. 2. Flush volumes and flow rates of fittings must be confirmed where relevant through data sheets. 3. Drawings confirming the location of all sanitary fittings. 40% improvements over baseline To be included in the tender documents.	5	3		

BREEAM New Construction 2018
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Credit			Credit Information	RIBA	Action	Evidence Required	Points Available	Target Score	Achieved Score	Potential Additional
Wat	2	Water meter	**MANDATORY CREDIT** 1. Specify a water meter on the mains water supply to each building. This includes instances where water is supplied via a borehole or other private source. 2. For water-consuming plant or building areas consuming 10% or more of the building's total water demand: 2.a Fit easily accessible sub-meters OR 2.b Install water monitoring equipment integral to the plant or area. 3. For each meter (main and sub): 3.a Install a pulsed or other open protocol communication output AND 3.b. Connect it to an appropriate utility monitoring and management system (or award credits provided that the system used enables connection when the BMS becomes operational). 4. In buildings with swimming pools, or large water tanks and aquariums, fit separate sub-meters on the water supply of the above and any associated changing facilities (toilets, showers etc.) irrespective of their water consumption levels. 5. In buildings containing laboratories, fit a separate water meter on the water supply to any process or cooling loop for 'plumbed-in' laboratory process equipment, irrespective of their water consumption levels.	**Design**	**BWB**	**Provide;** 1. A water services drawing and copy of the mechanical specification clause confirming: a. Water meter with a pulsed output will be installed on the mains water supply.	1	1		
Wat	3	Leak detection system	1. Install a leakdetection system capable of detecting a major water leak: 1.a On the utilities water supply within the buildings, to detect any major leaks within the buildings AND 1.b Between the buildings and the utilities water supply, to detect any major leaks between the utilities supply and the buildings under assessment. 2. The leakdetection system is: 2.a A permanent automated water leakdetection system that alerts the building occupants to the leak OR an inbuilt automated diagnostic procedure for detecting leaks 2.b Activated when the flow of water passing through the water meter or data logger is at a flow rate above a pre-set maximum for a pre-set period of time. 2.c Able to identify different flow and therefore leakage rates, e.g. continuous, high or low level, over set time periods. Although high and low level leakage rates are not specified, the leakdetection equipment installed must have the flexibility to distinguish between different flow rates to enable it to be programmed to suit the building type and owner's or occupier's usage patterns. 2.d Programmable to suit the owner's or occupier's water consumption criteria 2.e Where applicable, designed to avoid false alarms caused by normal operation of large waterconsuming plant such as chillers.	**Design**	**BWB**	**Provide;** 1. Relevant section/clauses of the building specification or contract 2. Design drawings 3. Manufacturers product details	1	1		
		Flow control devices	3. Install flow control devices that regulate the water supply to each WC area or sanitary facility according to demand, in order to minimise undetected wastage and leaks from sanitary fittings and supply pipework.	**Design**	**BWB**	**Provide;** 1. Relevant section/clauses of the building specification or contract 2. Design drawings 3. Manufacturers product details	1	1		

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BWB CONSULTANCY | ENVIRONMENT INFRASTRUCTURE | BUILDINGS

Credit			Credit Information	RIBA	Action	Evidence Required	Points Available	Target Score	Achieved Score	Potential Additional
Wat	**4**	Water Efficient Equipment	1. The design team has identified all unregulated water demands that could be realistically mitigated or reduced. 2. System(s) or processes have been identified to reduce the unregulated water demand, and demonstrate, through either good practice design or specification, a meaningful reduction in the total water demand of the building.	**Design**	**Landscape Architect**	**Provide;** 1. A formal letter confirming that No irrigation system is specified for external landscaping and planting within the construction zone, and the proposed planting will rely solely on precipitation, during all seasons of the year.	1	1		
MATERIALS										
Mat	**1**	Environmental impacts from construction products (LCA)	**Up to six credits – Superstructure;** Option appraisal during Concept Design; 4. During Concept Design, identify opportunities for reducing environmental impacts as follows: 4.a. Carry out building LCA options appraisal of 2 to 4 significantly different superstructure design options. 4.b. Use a building LCA tool that is recognised by BREEAM according to the methodology. 4.c. For each design option, fulfil the same functional requirements specified by the client and all statutory requirements 4.d. Integrate the LCA options appraisal activity within the wider design decision-making process. 4.e. Record the certain criteria in the Mat 01/02 Results Submission Tool. 4.f. Submit the Mat 01/02 Results Submission Tool to BRE at the end of Concept Design, and before planning permission is applied for (that includes external material or product specifications). Options appraisal during Technical Design; 5. During Technical Design identify opportunities for reducing environmental impacts as follows: 5.a Carry out building LCA options appraisal of 2 to 3 significantly different superstructure design options 5.b. Use a building LCA tool that is recognised by BREEAM according to the methodology. 5.c. As criteria 4.c to 4.e above. Where an options appraisal summary document was produced during Concept Design, update it to include the Technical Design options. 5.d. Submit the Mat 01/02 Results Submission Tool to BRE at the end of Technical Design. **One credit – Substructure and hard landscaping options appraisal during Concept Design;** 6. Criteria 3 and 4 are achieved. 7. During Concept Design identify opportunities for reducing environmental impacts as follows: 7.a. Carry out building LCA options appraisal of a combined total of at least six significantly different substructure or hard landscaping design options (at least two of each). 7.b. Using a building LCA tool that is recognised by BREEAM according to the methodology. 7.c As criteria 4.c to 4.f above.	**Concept Design- prior to planning**	**LCA/ AG/ BWB/ Strcuture**	**Provide:** 1. The options appraisal summary document 2. Evidence that the LCA options appraisal summary document has been received by the design team and client (meeting minutes, letter of acknowledgement) 3. Evidence of how the LCA design options have informed the design decision-making process (e.g. meeting minutes, documented design development showing how the LCA options have affected the design). 4. The LCA options appraisal summary document includes substructure and hard landscaping according to the criteria. The Mat 01/02 Results Submission Tool	7	5		
			Pre-requisite 1. All timber and timber-based products used on the project are legally harvested and traded timber as per the UK Government's Timber Procurement Policy (TPP).	**Design**	**Contractor**	**Provide:** 1. Commitment letter that all timber to be sourced in line with UK's timber procurement policy (certificates at PC). To be included in the contractor tender documents	**No Credits**			

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Credit			Credit Information	RIBA	Action	Evidence Required	Points Available	Target Score	Achieved Score	Potential Additional
Mat	3	Responsible sourcing of construction products	Enabling sustainable procurement 2. A sustainable procurement plan must be used by the design team to guide specification towards sustainable construction products. The plan must: 2.a. Be in place before Concept Design. 2.b. Include sustainability aims, objectives and strategic targets to guide procurement activities. 2.c. Include a requirement for assessing the potential to procure construction products locally. 2.d. Include details of procedures in place to checkand verify the effective implementation of the sustainable procurement plan. In addition, if the plan is applied to several sites or adopted at an organisational level it must: 2.e. Identify the risks and opportunities of procurement against a broad range of social, environmental and economic issues following the process set out in BSISO20400:2017.	**Concept Design**	**AG**	**Provide:** 1. A copy of the compliant plan 2. Confirmation that it has been produced at Concept design stage	1	1		
			Up to 3 credits - Measuring responsible sourcing 3. Use the Mat 03 calculator tool and methodology to determine the number of credits achieved for the construction products specified or procured. Credits are awarded in proportion to the scope of the assessment and the number of points achieved (as set out in Table 9.10). - 1 credit; Superstructure (10% of points achieved) - 2/3 credits; + Internal finishes, Substructure & hard landscaping (20%/30% of points achieved)	**Design**	**AG/ BWB / Contractor**	**Provide:** 1. Volume schedule of each key material within each element 2. Responsible sourcing level and certificates for each material (ISO 14001/BES 6001/ EPD) 3. Evidence to show how the Mat 03 calculator tool has been completed. Mat 03 calculator To be included in the contractor tender documents **EXTRA POTENTIAL CREDIT (**Internal finishes, Substructure & hard landscaping)	3	1		1

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Credit			Credit Information	RIBA	Action	Evidence Required	Points Available	Target Score	Achieved Score	Potential Additional
Mat	**5**	Designing for durability and resilience	Protecting vulnerable parts of the building from damage 1. Protection measures are incorporated into the building's design and construction to reduce damage to the building's fabric or materials in case of accidental or malicious damage occurring. These measures must provide protection against: 1.a. Negative impacts of high user numbers in relevant areas of the building (e.g. corridors, lifts, stairs, doors etc.). 1.b. Damage from any vehicle or trolley movements within 1m of the internal building fabric in storage, delivery, corridor and kitchen areas. 1.c. External building fabric damage by a vehicle. Protection where parking or manoeuvring areas are within 1 metre of the building façade and where delivery areas or routes are within 2 metres of the façade, i.e. specifying bollards or protection rails. 1.d. Potential malicious damage to building materials and finishes, in public and common areas where appropriate. Protecting exposed parts of the building from material degradation 2. Key exposed building elements have been designed and specified to limit long and short term degradation due to environmental factors. This can be demonstrated through one of the following: 2.a The element or product achieving an appropriate quality or durability standard or design guide (Table 9.14). If none are available, use BS7543:2015 as the default appropriate standard. OR 2.b A detailed assessment of the element's resilience when exposed to the applicable material degradation and environmental factors. 3. Include convenient access to the roof and façade for cost-effective cleaning, replacement and repair in the building's design. 4. Design the roof and façade to prevent water damage, ingress and detrimental ponding	**Design**	**AG**	**Provide:** 1. Marked up drawings showing the vulnerable areas of the development externally and internally 2. Drawings showing the implemented robustness measures 3- Proof of product's standards OR detailed assessment of the element's resilience to degradation and environmental factors	1	1		
Mat	**6**	Material efficiency	1. At the Preparation and Brief and Concept Design stages, set targets and report on opportunities and methods to optimise the use of materials. These must be done for each of the following stages: 1.a Preparation and Brief 1.b Concept Design 1.c Developed Design 1.d Technical Design 1.e Construction 2. Develop and record the implementation of material efficiency during: 2.a Developed Design 2.b Technical Design 2.c Construction 3. Report the targets and actual material efficiencies achieved.	**Brief/ Concept Design**	**AG (BWB / Strucuture)**	**Provide;** 1. Reports confirming that opportunities have been identified, and appropriate measures investigated and implemented to optimise the use of materials. 2. The above is carried out by the design/construction team in consultation with the design team at each of the following stage (Brief to Construction) 3. Meeting minutes/reports/correspondences confirming the material efficiency measures have been addressed throughout the different project stages. **This includes;** - using fewer materials - reusing existing demolition and strip-out materials - procuring materials with higher levels of recycled content. - It may also include the adoption of alternative means of design and construction that result in fewer materials usage and lower wastage levels including off-site manufacturer or use of pre-assembled service pod	1	1		
WASTE										

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Credit			Credit Information	RIBA	Action	Evidence Required	Points Available	Target Score	Achieved Score	Potential Additional
Wst	1	Construction waste management	**Pre-demolition audit** 1. Complete a pre-demolition audit of any existing buildings, structures or hard surfaces being considered for demolition. This must be used to determine whether refurbishment or reuse is feasible and, in the case of demolition, to maximise the recovery of material for subsequent high grade or value applications. The audit must cover the content of Pre-demolition audit; 1.a Be carried out at Concept Design stage by a competent person prior to strip-out or demolition works 1.b Guide the design, consider materials for reuse and set targets for waste management 1.c Engage all contractors in the process of maximising high grade reuse and recycling opportunities 2 Make reference to the audit in the resource management plan (RMP) 3 Compare actual waste arisings and waste management routes used with those forecast and investigate significant deviations from planned targets	**Concept Design**	**Demolition Contractor**	**Provide:** 1. A copy of the compliant Pre-demolition audit 2. Confirmation that it has been carried out at Concept Design stage (RIBA Stage 2) by a competent person prior to strip-out or demolition works	1	1		
			<u>Up to three credits - Construction resource efficiency</u> 3 Prepare a compliant Resource Management Plan (RMP) covering: 3.a. Non-hazardous waste materials (from on-site construction and dedicated off-site manufacture or fabrication), including demolition and excavation waste 3.b. Accurate data records on waste arisings and waste management routes. 4. Meet or improve upon the benchmarks in Table 10.1 for non-hazardous construction waste, excluding demolition and excavation waste. <u>One credit - Diversion of resources from landfill</u> 5. Meet, where applicable, the diversion from landfill benchmarks in Table 10.2 for non-hazardous construction waste and demolition and excavation waste generated. 6. Sort waste materials into separate key waste groups as per Table 10.3, either on-site or through a licensed contractor for recovery.	**Design**	**Contractor**	**Provide:** 1. A copy of the compliant Resource Management Plan (RMP) OR Relevant section/clauses of the building specification or contract OR A letter of commitment 2. The waste generated & diverted waste to meet the 4 credits requirements. 3. The generated waste to be ≤ 1.6 tonnes (or 1.9m3) per 100m2 GIFA 4. The diverted waste from landfill to be a min of; - Non-demolition waste= 90% by Tonnage (or 85% by volume). - Demolition waste= 95% by Tonnage (or 85% by volume) - Excavation waste= 95% by Tonnage (or 95% by volume) To be included in the contractor tender documents	4	4		
Wst	2	Use of recycled and sustainably sourced aggregates	**Pr-erequisite** 1. If demolition occurs on site, to encourage the reuse of site-won material on site, complete a pre-demolition audit of any existing buildings, structures or hard surfaces in accordance with Assessment scope. <u>One credit - Project Sustainable Aggregate Points</u> 2. Identify all aggregate uses and types on the project Table 10.5 and Table 10.6 3. Determine the quantity in tonnes for each identified use and aggregate type. 4. Identify the region in which the aggregate source is located. 5. Calculate the distance in kilometres travelled by all aggregates by transport type. 6. Enter the information into the BREEAMWst 02 calculator to calculate the Project Sustainable Aggregate points.	**Design**	**Structure Engineer**	**Provide;** 1. Project team calculations detailing the weights and types of aggregate provided for each application 2. Documentation confirming the source of recycled/secondary aggregates, region & distance (in km). 3. Delivery notes (or confirmation from supplier) of the types and quantities of aggregates provided on site. Wst 02 calculator	1			

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Credit			Credit Information	RIBA	Action	Evidence Required	Points Available	Target Score	Achieved Score	Potential Additional
Wst	**3**	Operational Waste	**MANDATORY CREDIT** 1. Provide a dedicated space for the segregation and storage of operational recyclable waste generated. The space is: 1.a Clearly labelled, to assist with segregation, storage and collection of the recyclable waste streams 1.b Accessible to building occupants or facilities operators for the deposit of materials and collections by waste management contractors 1.c Of a capacity appropriate to the building type, size, number of units (if relevant) and predicted volumes of waste that will arise from daily or weekly operational activities and occupancy rates. 2. For consistent and large amounts of operational waste generated, provide: 2.a Static waste compactors or balers;situated in a service area or dedicated waste management space 2.b Vessels for composting suitable organic waste OR adequate spaces for storing segregated food waste and compostable organic material for collection and delivery to an alternative composting facility 2.c A water outlet provided adjacent to or within the facility for cleaning and hygiene purposes where organic waste is to be stored or composted on site.	**Design**	**AG / BWB**	**Provide:** 1. Annotated drawings confirming that the provision of a compliant waste area; a. Clearly labelled. b. Placed within 20m of the building entrance. c. At least $2m^2$ per $1000m^2$ of net floor area. 2. Drawing to show the Static waste compactor location 3. M&E drawing showing the allowed connections for future waste compactor	1	1		
Wst	**5**	Adaptation to climate change	1. Conduct a climate change adaptation strategy appraisal using: 1.a. A systematic risk assessment to identify the impact of expected extreme weather conditions arising from climate change on the building over its projected life cycle. The assessment covers the installation of building services and renewable systems, as well as structural and fabric resilience aspects and includes: 1.a.i Hazard identification 1.a.ii Hazard assessment 1.a.iii Riskestimation 1.a.iv Riskevaluation 1.a.v Riskmanagement. 2. Develop recommendations or solutions based on the climate change adaptation strategy appraisal, before or during Concept Design, that aim to mitigate the identified impact. 3. Provide an update during Technical Design demonstrating how the recommendations or solutions proposed at Concept Design have been implemented where practical and cost effective.	**Cocept Design**	**AG (BWB & Structure Engineer)**	**Provide**; 1. The complaint climate change adaptation strategy appraisal reprot for structural and fabric resilience. 2. Confirmation that it has been produced by RIBA Stage 2.	1	1		

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Credit			Credit Information	RIBA	Action	Evidence Required	Points Available	Target Score	Achieved Score	Potential Additional
Wst	**6**	Design for disassembly and adaptability	<u>One credit - Design for disassembly and functional adaptability - recommendations</u> 1. Conduct a study to explore the ease of disassembly and the functional adaptation potential of different design scenarios by the end of Concept Design. 2. Develop recommendations or solutions based on the study (criterion 1 above), during or prior to Concept Design, that aim to enable and facilitate disassembly and functional adaptation. <u>One credit - Disassembly and functional adaptability – implementation</u> **(Not targeted)** 3. Achieve criteria 1 and 2 4. Provide an update, during Technical Design, on: 4.a How the recommendations or solutions proposed by Concept Design have been implemented where practical and cost effective. 4.b Changes to the recommendations and solutions during the development of the Technical Design. 5. Produce a building adaptability and disassembly guide to communicate the characteristics allowing functional adaptability and disassembly to prospective tenants.	**Concept Design**	**AG (BWB & Structure Engineer)**	**Provide;** <u>First credit</u> 1. The complaint Disassembly and functional adaptability study, implementation plan report, building adaptability and disassembly guide. 2. Confirmation that it has been undertaken by the Concept Design.	2	1		

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Credit			Credit Information	RIBA	Action	Evidence Required	Points Available	Target Score	Achieved Score	Potential Additional
LAND USE & ECOLOGY										
LE	**1**	Previously occupied land	1. At least 75% of the proposed development's footprint is on an area of land which has previously been occupied (see Definitions below).	**Design**	**AG**	**Provide:** 1. Existing and proposed drawings to demonstrate that in excess of 75% of the footprint of the new build lies on previously developed land (this is understood to be 100% of the area of the proposed building footprint). 2. Site photographs to demonstrate that the land was previously developed.	1	1		
		Contaminated land	2. A contaminated land professional's site investigation, risk assessment and appraisal has deemed land within the site to be affected by contamination. The site investigation, riskassessment and appraisal have identified: 2.a The degree of contamination 2.b The contaminant sources or types 2.c The options for remediating sources of contamination which present an unacceptable risk. 3. The client or principal contractor confirms that remediation of the site will be carried out in accordance with the remediation strategy and its implementation plan as recommended by the contaminated land professional.	**Design**	**Civils**	**Provide;** 1. A copy of the contaminated land report, remediation strategy and implementation plan. 2. Confirmation that the remediation of the site will be carried out in accordance with the remediation strategy and its implementation plan as recommended by the contaminated land professional.	1			
			Prerequisite - Statutory obligations 1 The client or contractor confirms compliance is monitored against all relevant UK and EU or international legislation relating to the ecology of the site.							

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Credit			Credit Information	RIBA	Action	Evidence Required	Points Available	Target Score	Achieved Score	Potential Additional
LE	2	Ecological risks and opportunities for the project	Survey and evaluation Comprehensive route (Route 2) 3 A Suitably Qualified Ecologist (SQE) carries out a survey and evaluation for the site early enough to influence site preparation works, layout and, where necessary, strategic planning decisions (typically Preparation and brief stage) 4 The SQE's survey and evaluation determines the site's ecological baseline, including: 4.a Current and potential ecological value and condition of the site and related areas within the Zone of Influence. 4.b Direct and indirect risks to current ecological value from the project. 4.c Capacity and feasibility for enhancement of the site's ecological value and, where relevant, areas within the Zone of Influence. 5 Recommendations and data collected from the survey and evaluation are shared with appropriate project team members to influence decisions made for activities during site preparation, design and construction works, which can support ecological features Determining ecological outcomes Foundation and Comprehensive routes (Routes 1 and 2) 6 Survey and evaluation criteria relevant to the chosen route (Criteria 3–5 above for the Comprehensive route) 7 The project team liaise and collaborate with representative stakeholders early enough to influence key planning decisions (typically Concept Design stage), to: 7.a Identify the optimal ecological outcomes for the site. 7.b Identify, appraise and select measures to meet the optimal ecological outcomes for the site (criterion 7.a), in line with the mitigation hierarchy of action, according to the route being used	**Preparation/ Brief/ Concept Design**	**RPS / RP/ Client/ Contractor**	**Provide;** 1. The site ecological value has been assessed by (SQE) or Checklist. 2. GN40 notes provided by the SQE 3. Commitment to confirm that compliance will be monitored against all relevant UK and EU or international legislation relating to the ecology of the site 4. Correspondences confirming data are collated and shared with project team.	2	2		

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Credit			Credit Information	RIBA	Action	Evidence Required	Points Available	Target Score	Achieved Score	Potential Additional
LE	3	Managing impacts on ecology	**Prerequisite** – Ecological risks and opportunities 1 LE02's 'Survey and evaluation and Determining ecological outcomes' criteria have been achieved using the Foundation route (Route 1) or the Comprehensive route (Route 2) <u>One credit – Planning and measures on-site</u> Foundation and comprehensive route (Routes 1 and 2) 2 Further planning to avoid and manage negative ecological impacts on-site is carried out early enough to influence the concept design and design brief as well as site preparation planning (typically Concept Design stage). 3 On-site measures for managing negative ecological impacts during site preparation and construction are implemented in-practice (e.g. mitigation measures to protect existing ecological features) 4 Criteria 2-3 are based on input from the project team in collaboration with representative stakeholders and data collated as part of the 'Determining ecological outcomes' in LE02 Ecological risks and opportunities <u>Up to two credits – Managing negative impacts</u> Comprehensive route (Route 2) 7 Criteria 2-4 have been achieved. 8 Negative impacts from site preparation and construction works have been managed according to the mitigation hierarchy, in line with the SQE's recommendations and, either: 8.a No overall loss of (see Definitions) ecological value has occurred (two credits). OR where criterion 8.a is not possible: 8.b The loss of ecological value has been minimised (Minimising Loss) (one credit)	**Concept Design**	**RPS / RP/ Client/ Contractor**	**Provide;** 1. GN40 notes provided by the SQE 2. Confirmation that compliance will be monitored against all relevant UK, and EU or International legislation relating to the ecology of the site 3. Correspondences confirming the project team and collaborating with representative stakeholders	3	2		

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Credit			Credit Information	RIBA	Action	Evidence Required	Points Available	Target Score	Achieved Score	Potential Additional
LE	4	Ecological change and enhancement	**Prerequisite** - Managing negative impacts on ecology 1 LE03 has been achieved. 2. The client or contractor confirms compliance is monitored against all relevant UK, EU or international legislation relating to the ecology of the site. One credit - Ecological enhancement Comprehensive route (Route 2) only 4. Measures have been implemented that enhance ecological value, which are based on input from the project team and SQEin collaboration with representative stakeholders and data collated as part of the 'Determining ecological outcomes' in LE02 (see Methodology). Measures are implemented in the following order: 4.a On site, and where this is not feasible, 4.b Off site within the Zone of Influence. 5. Data collated are analysed and where potentially valuable, provided to the local environmental records centres nearest to, or relevant for, the site Up to three credits - Change and enhancement of ecology Comprehensive route (Route 2) only 6. Up to three credits are awarded based on the change in ecological value occurring as a result of the project. This must be calculated in accordance with the process set out in GN36 - BREEAM, CEEQUALand HQM Ecology Calculation Methodology – Route 2. Credits are awarded in line with the Reward Scale table in GN36 where there are no residual impacts on protected sites or irreplaceable habitats.	**Design**	**RPS / RP/ Client/ Contractor**	**Provide:** 1. GN40 notes provided by the SQE 2. Confirmation that compliance will be monitored against all relevant UK, and EU or International legislation relating to the ecology of the site 3. Confirmation of the change in ecological (GN 35/36) 4. Copy of the calculator 5. Confirmation that the data collated have been analysed and where potentially valuable, provided to the local environmental records centres nearest to the site	4	2		
		Long term	**Pre-requisite** - Roles and responsibilities, implementation, statutory obligations 1-The client or contractor has confirmed that compliance is being monitored against all relevant UK, EU and international standards relating to the ecology of the site. 2 The following must be achieved, according to the route being assessed: 2.a Foundation route (Route 1) - Criterion 6 in LE03 has been achieved. 2.b Comprehensive route (Route 2) - Criterion 8 in LE03 has been achieved, and at least one credit under LE+D7404 for 'Change and Enhancement of Ecology'has been awarded. One credit - Planning, liaison, data, monitoring and review management and maintenance 3. The project team liaise and collaborate with representative stakeholders, taking into consideration data collated and shared, on solutions and measures implemented to: 3.a monitor and review implementation and the effectiveness 3.b develop and review management and maintenance solutions, actions or measures. 4. In support of the above and to help ensure their continued relevance over the period of the project the following should be considered: 4.a Monitoring and reporting of on the ecological outcomes for site implemented at the design and construction stage 4.b Monitoring and reporting of outcomes and successes from the project 4.c Arrangements for the ongoing management of landscape and habitat connected to the project (on and, where relevant, off site) 4.d Maintaining the ecological value of the site and its relationship or connection to its zone of influence 4.e Maintaining the site in line with the any sustainability linked activities, e.g. ecosystems benefits			**Provide;** 1. 1. GN40 notes provided by the SQE 2. A copy of the compliant Landscape & Ecology management plan OR commitment to				

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Credit			Credit Information	RIBA	Action	Evidence Required	Points Available	Target Score	Achieved Score	Potential Additional
LE	5	Long term ecological management and maintenanc	4.e Maintaining the site in line with the any sustainability linked activities, e.g. ecosystems benefits (LE02). 4.f Remedial or other management actions are carried out which relate to those identified in LE02, LE03 and LE04. 5. As part of the tenant or building owner information supplied, include a section on Ecology and Biodiversity to inform the owner or occupant of local ecological features, value and biodiversity on or near the site. <u>One credit - Landscape and ecology management plan (or similar) development</u> 6. Landscape and ecology management plan, or similar, is developed in accordance with BS42020:2013. covering as a minimum the first five years after project completion and includes: 6.a Actions and responsibilities, prior to handover, to give to relevant individuals 6.b The ecological value and condition of the site over the development life. 6.c Identification of opportunities for ongoing alignment with activities external to the development project and which supports the aims of BREEAM's Strategic Ecology Framework 6.d Identification and guidance s to trigger appropriate remedial actions to address previously unforeseen impacts 6.e Clearly defined and allocated roles and responsibilities. 7. The landscape and management plan or similar is updated as appropriate to support maintenance of the ecological value of the site.	Design	RPS / RP/ Client/ Contractor	2. A copy of the compliant Landscape & Ecology management plan OR commitment to provide it 3. Confirmation that a section on Ecology and Biodiversity will be included as part of the tenant or building owner information supplied. 4. Confirmation that the plan will be updated as appropriate to support maintenance of the ecological value of the site.	2	2		
POLLUTION										

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Credit			Credit Information	RIBA	Action	Evidence Required	Points Available	Target Score	Achieved Score	Potential Additional
Pol	1	Impact of Refrigerants	1. Three credits - No refrigerant use within the installed plant or systems. OR alternatively, where the building does use refrigerants; **Prerequisite** 2. All systems with electric compressors comply with the requirements of BSEN 378:2016 (parts 2 and 3). Refrigeration systems containing ammonia comply with the Institute of Refrigeration Ammonia Refrigeration Systems code of practice. Two credits 3. The direct effect life cycle CO_2equivalent emissions (DELC) of ≤ 100 CO_2-eq/kW. For systems which provide cooling and heating, the worst performing output based on the lower of kW cooling output and kW heating output is used to complete the calculation. OR 4. All refrigerants used have a global warming potential (GWP) ≤ 10. One credit 5. Systems using refrigerants have a DELC of ≤ 1000 kgCO_2-eq/kW cooling and heating capacity. One credit - Leak detection 6. All systems are hermetically sealed or only use environmentally benign refrigerants OR 7. Where the systems are not hermetically sealed: 7.a Systems have: 7.a.i A permanent automated refrigerant leakdetection system, that is robust and tested, and capable of continuously monitoring for leaks. OR 7.a.ii An inbuilt automated diagnostic procedure for detecting leakage is enabled. 7.b In the event of a leak, the system must be capable of automatically responding and managing the remaining refrigerant charge to limit loss of refrigerant.	Design	BWB	**Provide:** 1. A copy of the specification clause or letter from the M&E engineer/system manufacturer confirming relevant refrigeration type and system information. 2. Calculations/info for Pol1 calculator 3. Leak detection information and datasheets	3	2		
Pol	2	Local air quality	1. All heating and hot water is supplied by non-combustion systems. For example, only powered by electricity. OR alternatively; 2. Emissions from all installed combustion plant that provide space heating and domestic hot water do not exceed the levels set in Table 12.4 and Table 12.5 High location has NO_x > 15 µg/m³and PM10 > 10 µg/m³averaged over a year. Gas Boiler; Requires max 24(mg/kWh) to achieve two credits & 27 (mg/kWh) to achieve one credit	Design	BWB	**Provide:** 1. Relevant section/clauses of the building specification or contract- for the Nox emissions. 2. Manufacturer's product details. 3. Calculations from the project team. Electric	2	2		

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Credit			Credit Information	RIBA	Action	Evidence Required	Points Available	Target Score	Achieved Score	Potential Additional
		Flood resilience	**Pr-erequisite** 1. An appropriate consultant is appointed to carry out and demonstrate the development's compliance with all criteria. <u>Up to two credits - Flood resilience</u> Two credits - Low flood risk 2. A site-specific flood riskassessment (FRA) confirms the development is in a flood zone that is defined as having a low annual probability of flooding. The FRA takes all current and future sources of flooding into consideration One credit - Medium or high flood risk 3. A site-specific FRA confirms the development is in a flood zone that is defined as having a medium or high annual probability of flooding and is not in a functional floodplain. The FRA must take all current and future sources of flooding into consideration. 4. To increase the resilience and resistance of the development to flooding, one of the following must be achieved: 4.a The ground level of the building and access to both the building and the site, are designed (or zoned) so they are at least 600 mm above the design flood level of the site's flood zone. 4.b The final design of the building and the wider site reflects the recommendations made by an appropriate consultant in accordance with the hierarchy approach outlined in section 5 of BS 8533:2017.	**Design**	**Civils**	**Provide:** 1. Flood Risk Assessment (FRA) demonstrating that the site is of low annual probability of flooding from all sources 2. Design drawings **The FRA must detail the risk of flooding from ALL of the following sources:** 1. Fluvial (rivers) 2. Tidal 3. Surface water:sheet run-off from adjacent land (urban or rural) 4. Groundwater:most common in low-lying areas underlain by permeable rock(aquifers 5. Sewers: combined, foul or surface water sewers 6. Reservoirs, canals and other artificial sources 7. The content of the FRA should be based on historic trends and account for predicted changes to the climate which may impact on the flood riskto the site in future.	2	2		

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BWB CONSULTANCY | ENVIRONMENT INFRASTRUCTURE | BUILDINGS

Credit			Credit Information	RIBA	Action	Evidence Required	Points Available	Target Score	Achieved Score	Potential Additional
Pol	3	Surface Water Run Off	**Pre-requisite** 5. Surface water run-off design solutions must be bespoke, i.e. they must take account of the specific site requirements and natural or man-made environment of and surrounding the site. <u>One credit - Surface Water Run-Off - Rate</u> 6. Drainage measures are specified so that the peakrate of run-off from the site to the watercourses (natural or municipal) shows a 30% improvement for the developed site compared with the pre-developed site. This should comply at the 1-year and 100-year return period events. 7. Relevant maintenance agreements for the ownership, long term operation and maintenance of all specified Sustainable Drainage Systems (SuDS) are in place. 8. Calculations include an allowance for climate change. This should be made in accordance with current best practice planning guidance. <u>One credit - Surface Water Run-Off - Volume</u> 9. Flooding of property will not occur in the event of local drainage system failure (caused either by extreme rainfall or a lackof maintenance);AND EITHER 10. Drainage design measures are specified so that the post-development run-off volume, over the development lifetime, is no greater than it would have been prior to the assessed site's development. This must be for the 100-year 6-hour event, including an allowance for climate change. 11. Any additional predicted volume of run-off for this event is prevented from leaving the site by using infiltration or other SuDS techniques. OR (only where criteria 10 and 11 cannot be achieved): 12. Justification from the appropriate consultant indicating why the above criteria cannot be achieved, i.e. where infiltration or other SuDStechniques are not technically viable options. 13. Drainage design measures are specified so that the post-development peakrate of run-off is reduced to the limiting discharge. The limiting discharge is defined as the highest flow rate from the following options: 13.a The pre-development one-year peakflow rate/ 13.b The mean annual flow rate (Qbar) / 13.c 2L/s/ha. For the one-year peakflow rate, the one-year return period event criterion applies. 14. Relevant maintenance agreements for the ownership, long term operation and maintenance of all specified SuDSare in place. 15. For either option, above calculations must include an allowance for climate change; this should be made in accordance with current best practice planning guidance	Design	Civils	**Provide;** <u>First credit;</u> 1. Report, by an appropriate consultant demonstrating that the surface water run off shows a 30% improvement for the developed site compared with the pre-developed site (this should comply at the 1-year and 100-year return period events) 2. Calculation results for the pre-and postdevelopment peakrate of run-off <u>Second credit</u> 1. Report confirming that flooding of property will not occur in the event of local drainage system failure; 2. The post development run-off volume, over the development lifetime, is no greater than it would have been prior to the assessed site's development. 3. Any additional predicted volume of run-off for the 100 year 6 hour event must be pre-vented from leaving the site by using infiltration or other SuDS techniques. 4. Confirmation that the relevant maintenance agreements for the ownership, long term operation and maintenance of all specified SuDS are are in place 5. Information showing the proposed drainage solution, system failure flood flow routes, potential flood ponding levels and ground floor levels 6. Calculation results for the pre- and post-development volume of run-of	2	2		

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Credit			Credit Information	RIBA	Action	Evidence Required	Points Available	Target Score	Achieved Score	Potential Additional
		Minimising Water Course Pollution	17. There is no discharge from the developed site for rainfall up to 5 mm (confirmed by the appropriate consultant). 18. Areas with a low risksource of watercourse pollution, an appropriate level of pollution prevention treatment is provided, using appropriate SuDStechniques. 19. Areas with a high riskof contamination or spillage of substances, such as petrol and oil, have separators (or an equivalent system) are installed in surface water drainage systems. 20. Chemical or liquid gas storage areas have a means of containment fitted to the site drainage system (i.e. shutoff valves). This is to prevent the escape of chemicals to natural watercourses in the event of a spillage or bunding failure. 21. All water pollution prevention systems have been designed and installed in accordance with the recommendations of documents such as the SuDSmanual & other relevant industry best practice. They must be bespoke solutions taking account of the specific site requirements and natural or man-made environment of and surrounding the site. 22. A comprehensive and up to date drainage plan of the site will be made available for the building or site occupiers. 23. Relevant maintenance agreements for the ownership, long term operation and maintenance of all specified SuDS must be in place. 24. All external storage and delivery areas are designed and detailed in accordance with the current best practice planning guidance.	**Design**	**Civils**	**Provide;** 1. Design drawings or relevant section of the building specification or contract indicating; - High and low risk areas of the site - Specification of SUDS, source control systems, oil/petrol separators and shut-off valves as appropriate 2. A letter confirming; - Water pollution prevention systems are designed in accordance with PPG3 and the SUDS manual - Indicative examples of compliance with PPG3 and the SUDS manual - A copy of the drainage plan will be produced and handed over to the building occupier - The design of all external storage & delivery areas is in compliance with relevant PPG with indicative examples of compliance. - Calculation of the 5mm rainfall event from the relevant areas **POTENTIAL**	1			1
Pol	**4**	Reduction of night time light pollution	1. External lighting pollution has been eliminated through effective design that removes the need for external lighting. This does not adversely affect the safety and security of the site and its users. OR alternatively, where the building does have external lighting, one credit can be awarded as follows: 2. All external lighting (except for safety and security lighting) can be automatically switched off between 23:00 and 07:00. 3. If safety or security lighting is provided and will be used between 23:00 and 07:00, this part of the lighting system complies with the lower levels of lighting recommended during these hours in Table 2 of the ILP guidance notes. 4. Illuminated advertisements are designed in compliance with ILP PLG05 The Brightness of Illuminated Advertisements.	**Design**	**BWB**	**Provide:** 1. Specification clause/letter confirming compliance with all detailed criteria. 2. An external lighting drawing showing the location of fittings & timer.	1	1		

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Credit			Credit Information	RIBA	Action	Evidence Required	Points Available	Target Score	Achieved Score	Potential Additional
Pol	5	Reduction of noise pollution	1. There are no noise-sensitive areas within the assessed building or within 800 m radius of the assessed site. OR 2. Where there are noise-sensitive areas within the assessed building or noise-sensitive areas within 800 m radius of the assessed site, a noise impact assessment compliant with BS4142:2014 is commissioned. Noise levels must be measured or determined for: 2.a Existing background noise levels: 2.a.i at the nearest or most exposed noise-sensitive development to the proposed assessed site 2.a.ii including existing plant on a building, where the assessed development is an extension to the building 2.b Noise rating level from the assessed building. 3. The noise impact assessment must be carried out by a suitably qualified acoustic consultant. 4. The noise level from the assessed building, as measured in the locality of the nearest or most exposed noisesensitive development, must be at least 5dB lower than the background noise throughout the day and night. 5. If the noise sources from the assessed building are greater than the levels described in criterion 4, measures have been installed to attenuate the noise at its source to a level where it will comply with the criterion.	Design	Acoustician	**Provide;** 1. SQA confirmation. 2. A site plan highlighting the proposed noise sensitive buildings and proposed sources of noise from development (plant room). 3. Acoustician's noise impact assessment in compliance with BS4142:2014 . 4. The acoustician's report must confirm that the noise levels caused as a result of the assessed development must be at least 5dB lower than the back ground (during the day & night). 5. Confirmation that attenuation will be carried out in line with the report if it is greater than the above levels and that post completion testing will be undertaken.	1	1		

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Credit			Credit Information	RIBA	Action	Evidence Required	Points Available	Target Score	Achieved Score	Potential Additional
INNOVATION										
Mat	**1**	Life cycle impacts	1. Core building services options appraisal during Concept Design 2. Third party verification	**Concept Design**	**LCA**	1. ASSESSING CORE SERVICES 2. Using qualified LCA professional	2	2		
Wst	**1**	Construction Site Waste Management	≤ 1.9 tone waste generated AND 90% diversion of Non demolition waste, 95% diversion of Demolition & Excavation waste.	**Design**	**Contractor**	As Wst01 above- providethe compliant (RMP) with the required levels for the generated & Diverted waste from landfil	1	1		
Le	**4**	Ecological change and enhancement	The change in ecological value calculated confirms significant net gain has been achieved as set out in GN36 - BREEAM, CEEQUALand HQM Ecology Calculation Methodology – Route - min (100% min)	**Design**	**Ecologist**	As per Le04 above	1			